Zidi Yang

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Education

University of California, Los Angeles (UCLA) — Los Angeles, CA
PhD student in Materials Science and Engineering — 09/2024 - Present

Huazhong University of Science and Technology (HUST) — Wuhan, China
Bachelor of Engineering in Electrical Engineering — 09/2020 – 06/2024
Overall GPA: 3.97/4.00

Nanyang Technological University (NTU) — Singapore
Visiting Student in Physics — 07/2023 – 10/2023

Publications

1. Boxuan Zhou*, **Zidi Yang***, Bangyao Hu, Jingxuan Zhou, Chen Li, Jingyuan Zhou, Yu Huang and Xiangfeng Duan, Ultralow threshold room-temperature continuous-wave lasing from solution processed bulk monolayer MoS_2 thin films. *On submitting 12/2024*.
2. Boxuan Zhou, Chen Li, **Zidi Yang**, Bangyao Hu, Ran Wang, Yucheng Zhang, Ao Zhang, Matthew Nava, Yu Huang, Xiangfeng Duan and Martin-Louis Riu, Solid-State Ionomer Interlayers Enable Stretchable Bulk Monolayer MoS_2 Membranes with Thickness-Scalable Bright Luminescence. *On submitting 02/2025*.
3. Anran Wang, Wendian Yao, **Zidi Yang**, Dingqi Zheng, Songlin Li, Yi Shi, Dehui Li and Fengqiu Wang, Probing the interlayer excitation dynamics in WS_2/WSe_2 heterostructures with broadly tunable pump and probe energies, *Nanoscale, 15(48), 19777-19783*.

Research Experience

Ultralow threshold lasing from solution processed bulk monolayer MoS_2 thin films — UCLA
Co-leader, Supervised by Prof. Xiangfeng Duan — 08/2024 - 12/2024

- Synthesis the intercalated monolayer MoS_2 thin film
- Design optical cavity for nano-laser emitting
- Characterize the performance of 2D laser with spectrum methods

Observation of Chiral Phonon Induced by Temperature Gradient — NTU
Leader, Supervised by Prof. Weibo Gao — 07/2023 – 10/2023

- Theoretically verify the existence of a new quantum state - chiral phonon in the chiral α - quartz crystal
- Characterize chiral phonons by the splitting of helicity Raman peaks
- Design an experiment to tune chiral phonons with temperature gradients

Chiral Phonons in Monolayer TMD/2D Chiral Perovskite Heterostructure — HUST
Leader, Supervised by Prof. Dehui Li — 01/2023 - 07/2023

- Theoretically study the emergence of chiral phonons in monolayer TMD and their coupling with interlayer excitons
- Fabricate the heterostructure and experimentally research the chiral phonons with helicity-Raman scattering
- Controlled the chiral phonons in monolayer TMD by changing the spin injection of 2D chiral perovskites

Optical Properties of Quadrupolar Excitons in TMDs/Perovskite/TMDs Trilayers — HUST
Co-leader, Supervised by Prof. Dehui Li — 06/2022 - 06/2023

- Simulate the quantum properties of quadrupolar exitons under different electrical fields
- Design the trilayer device with graphenes as the electrode
- Experimentally observe the signature of the quantum phase transitions in the trilayers under different voltages

Technical Skills

Python
LaTeX
MATLAB
C++